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Adolescents in secure accommodation in Scotland: Exposure and impact of traumatic events

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Abstract

The current study sought to, for the first time, assess the nature of trauma exposure and resultant symptoms in adolescents ($n = 17$) in secure accommodation in Scotland. A case study mixed methods design involved analysis of case files, trauma history interviews, and standardized trauma symptom questionnaires with adolescents and program staff in one facility. A developmental trauma framework was applied to file analysis. Despite extensive abuse and resultant symptoms identified in files, few explicitly reported traumatization. Adolescents in interview, however, reported numerous domestic and institutional traumatic events. High levels of post-traumatic stress (65%), depression (65%) and dissociation (18%) were identified. It appears adolescent traumatization is pervasive in one secure accommodation facility in Scotland. Studies across Scotland's secure facilities are needed to assess reliability of findings. Indications are, staffs in secure accommodation need to have an understanding of trauma exposure, resultant symptoms and how to respond to traumatized adolescents.

Keywords: trauma, adolescents, symptoms, detention, secure care

Adolescents in secure accommodation in Scotland: Exposure and impact of traumatic events

A considerable number of international and UK studies explore the extent and nature of child maltreatment experienced by adolescents prior to placement in child care settings. Studies indicate around 4.5% - 41% of adolescents experience abuse including neglect, domestic violence, physical assault and emotional and sexual abuse (Hussey, Chang, & Kotch, 2006). Wolfe, Jaffe, Jette, and Poisson (2001) estimate 12% - 15% also experience abuse in care settings. As a consequence, adolescents' present a range of mental health concerns such as depression, learning difficulties, behavioral problems, self-harm, anxiety and delinquency (Dierkhising, Ko, Woods-Jaeger, Lee, & Pynoos, 2013). A small number of adolescents display extreme behaviors including putting themselves and others at risk of serious harm, for example, suicide attempts, and serious assault. An extreme societal response to such highly risky behavior is mandatory placement in juvenile detention (Sickmund, Sladky, & Kang, 2005).

Studies of adolescents in juvenile detention report higher levels of child maltreatment than in the general population. Baglivio and colleagues' (2014) large scale study of 64,329 juvenile offenders, identified the following pattern of Adverse Childhood Experiences (ACE): family violence, mental illness, divorce, incarceration of family member; physical, sexual and emotional abuse/neglect; substance abuse and physical neglect. School suspension, alternative education placement (Vandarhaar, Munoz &, Petrosko, 2014) and the lack of social justice have also been identified as risk factors for incarceration (Kolivoski, Shook, Goodkind, & Kim, 2014). Unfortunately, once in juvenile detention, a third of adolescents report violence from peers, with the youngest being most at risk (Sickmund & Puzzanchera, 2014). Resultant symptoms, such as posttraumatic stress disorder (Stimmel, Cruise, Ford, & Weiss, 2014) and suicide (Bhatta, Jefferis, Kavadas, Alemagno, & Shaffer-King, 2014), are also higher in adolescents in juvenile

detention than in the general population.

Although juvenile detention aims to change adolescent behavior, research over the past twenty years shows a pattern of high recidivism and poor outcomes. This is particularly so for adolescents with posttraumatic stress (Trulson, Marquart, Mullings, & Caeti, 2005). This is a significant issue as posttraumatic stress has been found in over half the detained adolescent population (Wood, Foy, Goguen, Pynoos, & James, 2008). A recent longitudinal study of 1829 adolescents found that posttraumatic stress and other mental health problems continued for at least five years post detention (Abram et al., 2015). Mears, Cochran, Greenman, Bhati, and Greenwald (2011) argue that poor outcomes are due to the failure to address underlying trauma and the lack of evidence-based interventions.

In the hope of identifying effective interventions for adolescents in custodial settings, detention center studies in the US have shifted the discourse from child maltreatment to trauma exposure (Marrow, Knudsen, Olafson, & Bucher, 2012). Indications are, over 90% of adolescents in detention centers have experienced one or more traumatic events. Specific traumatic events of physical assaults, rapes, gang violence, knife attacks, shootings, familial violence and victimization have all been reported (Marrow, et al., 2012). Van der Kolk (2005) argues that without assessment of an adolescent's trauma history, symptoms are misdiagnosed as medical conditions, e.g. attention deficit hyperactivity disorder. Havens, Gudino, Biggs, Diamond, Weiss, and Cloitre (2012) also argue that PTSD is too limited a diagnosis. Instead, van der Kolk's (2005) concept of developmental trauma is proposed as a more comprehensive way of understanding the wide ranging impact of cumulative trauma. Symptom clusters include behavioral difficulties, poor educational performance, troubled family and peer relationships, criminal behavior, a lack of hope, emotional dysregulation, negative self-belief, re-victimization,

dissociation, and depression (van der Kolk, 2005).

Although juvenile detention centers increasingly recognize mental health concerns, the re-conceptualization from child maltreatment to traumatization, is in its infancy (Wasserman, McReynolds, Schwalbie, Keating, & Jones, 2010). Many centers lack trauma-specific screening, assessment and intervention (Ford, Chapman, Connor, & Cruise, 2012). Havens et al., (2012) reported that centers typically fail to recognize adolescents' internal emotional and cognitive states associated with trauma, including flashbacks and intrusive negative thoughts. As these symptoms have a profound impact on adolescent well-being and behavior, it is argued, the recognition of trauma and its impact is likely to be a significant factor in providing effective juvenile detention for adolescents.

In summary, in the US, trauma exposure and symptoms are under recognized and mis-diagnosed in juvenile detention. This in turn, results in adolescents not receiving trauma-specific interventions or the provision of trauma-sensitive environments (Hodgdon, Kinniburgh, Gabowitz, Blaustein, & Spinazzola, 2013). As a consequence, detention centers over focus on behavioral difficulties, where adolescents are blamed for criminal and troublesome behavior. Adolescents then receive ineffective behavior programs as opposed to evidence informed trauma therapies (Havens et al., 2012).

In Scotland, the situation for adolescents is more ambiguous than in the US. Scotland has five secure accommodation facilities that are located within residential child care (Scottish Executive, 2006), rather than criminal justice. Secure accommodation in Scotland is defined as "accommodation provided for the purpose of restricting the liberty of children in a residential establishment" (Scottish Government, 2013). A high proportion of adolescents are admitted because of risks to their own safety, through absconding and self-harm, as well as for the

protection of others. Whilst both groups have similar characteristics (Goldson, 2000), a key challenge for facilities is to address the diversity of needs and risks presented. The ambiguous nature of the task of secure accommodation, is captured by the subtitle of Harris and Timm's (1993) functional study 'Between Hospital and Prison or thereabouts?'

To date, there have been no published studies that have identified the nature and extent of trauma exposure and symptomology for adolescents in secure accommodation in Scotland. Further, the concept of trauma is characterized by its omission from national government child care policy documents and regulatory body and charity reports. Instead, these documents have focused on general child maltreatment categories and resultant impact (Barron & Mitchell, 2014). Research wise in Scotland, there has only been one unpublished study. Kibble Education and Care Centre (2011) reviewed levels of trauma exposure from secure accommodation records and key worker knowledge of adolescent backgrounds. Fifteen different types of domestic abuse and neglect were identified, from seventeen adolescents, ranging from sexual abuse (10.8%) to parental separation (83.5%). The latter occurred from parental imprisonment, domestic violence, absent fathers and divorce. Thirteen percent of adolescents were found to experience thirteen different types of traumatic events. Unfortunately, the lack of methodological description makes it difficult to assess the reliability of the findings.

The situation in Scotland then, is one of ambiguity of purpose and uncertainty regarding the recognition of the nature and extent of adolescent traumatization within secure accommodation. At present, it is unknown whether secure accommodation conceptualizes adolescents' difficulties from a trauma perspective and engages in any subsequent trauma screening, assessment and intervention. As a result, the current study seeks to assess (i) the extent secure accommodation case files conceptualize child abuse as adolescent trauma and (ii)

the nature and extent of trauma exposure and resultant symptoms for adolescents in secure accommodation in Scotland. To address these two questions, a case study approach with one secure accommodation facility, utilized analysis of case files, trauma history interviews and administration of trauma-specific standardized measures.

Methods

Research Design

A case study was conducted with one secure accommodation facility in Scotland. A mixed methods approach utilized case file analysis, trauma history interviews with adolescents, and standardized trauma symptom questionnaires with adolescents and staff. A case file framework for analysis, based on van der Kolk's (2005) developmental trauma disorder, was used to identify events and symptoms of developmental trauma and the extent to which these were labelled as trauma by child care professionals. As a comparison, trauma history interviews assessed adolescent reports of traumatic events in their lives as well as subjective levels of disturbance. Finally, a battery of standardized trauma symptom questionnaires completed by adolescents and staff was used to assess symptom severity. Results were compared with file analysis and trauma history interview responses.

Participants

The corpus sample was twenty young people, the maximum number of adolescents placed in secure accommodation during the four month project. The facility, selected by convenience and voluntary sampling, was located in a rural setting outside a small Scottish town. The facility accommodated adolescents from across Scotland. Attrition involved three adolescents whose placements ended because of local authority financial constraints. Adolescents were aged 13-17 years of age. Eleven were female and six male. The average age

was 15.05 years ($SD = 1.12$). All were Scottish and Caucasian. Case files reported adolescents were from families in relative poverty characterized by poor quality and crowded housing. Family factors, reported by frequency count per family were: unemployed ($n = 15$); parental prostitution ($n = 5$); parental drug dealing ($n = 3$); parental substance misuse ($n = 11$); parent in prison ($n = 2$); sex offender access to the home ($n = 3$); mother sectioned under the mental health act ($n = 1$); and one family was homeless ($n = 1$).

Adolescents were placed in secure because of: (i) repeated absconding, e.g., one file recorded 50 events; (ii) aggression and violence, e.g., gang violence; (iii) being at moral risk, e.g., prostitution; and (iv) a danger to self and others, e.g. substance misuse. Adolescents fitted all four criteria. Files showed that 3 months prior to admission (compared with the previous 3 months), adolescents presented with a rapid escalation of serious events, coupled with the failure of agencies to contain behavior. For example, one file recorded 40 absconding, 20 break-ins, 7 assaults and 3 attempted suicides prior to placement compared to absconding, breaks-in and assaults in single figures and no suicide attempts in the previous 3 months.

Measures

Case file analysis.

Secure case files were analyzed to assess the extent adolescent experience was conceptualized from a trauma perspective. Files contained social work, health and social care agency reports. Ninety five percent of reports pre-dated admission. The other 5% were facility screening assessments. A framework for analysis was developed from van der Kolk's developmental trauma disorder. The definitions for factors within the framework were taken directly from van der Kolk's (2005) proposal. The reader is referred to the original paper for detailed definition. In brief, the factors with examples were: A. trauma exposure (e.g. physical,

sexual abuse, emotional abuse; experiencing/witnessing domestic violence; and traumatic loss); B. Triggered dysregulation to trauma cues including affective (e.g. anxiety, depression), somatic (e.g. body pains), behavioral (e.g. violence; self-harm), cognitive (e.g. thinking it's happening again; dissociation), and relational problems (e.g. oppositional; complaint) and negative self-attributions (e.g. self-blame); C. persistently altered attributions and expectancies (e.g. distrust in care-takers and agencies; lack of social justice); and D. Functional Impairment including educational (e.g. underachievement); familial (e.g. rejected); peer relationships (e.g. isolated); legal (e.g. court); and vocational difficulties (e.g. maintaining employment). Because of many services in Scotland, the nature of professional involvement was included in the framework.

Analysis involved the identification of statements in reports that fit with the definitions of the framework headings. Statements were then listed under the appropriate heading. Tally counts and percentages of statements under headings are reported with case examples to give a quantitative and qualitative perspective of adolescent experience. Four case files of adolescents previously placed in secure were used for piloting the framework. The principal researcher was an educational psychologist and Reader. The co-researcher was the Professional Services Manager at the secure facility in the study. Both had extensive mental health and child care experience. For inter-rater reliability, 30% of file data was analyzed independently by both researchers. Accuracy of comparison was measured by Cohen's kappa.

Trauma history interview.

Ricky Greenwald's trauma history protocol (Greenwald, 2005) was used to assess adolescents' traumatic events and their impact. Adolescents listed their traumatic events and rated their current levels of disturbance. The standardized format for recording adolescent responses was followed. This involved asking adolescents, at what age traumatic events

occurred, what events occurred and how disturbing these events are currently on a scale from 0 to 10, where 0 is no disturbance and 10 is the most distressing things can be (SUDs: subjective units of disturbance scale). A case example is provided in tabular form showing the number of and type of traumatic events experienced and current levels of disturbance. Interviews lasted 40-50 minutes. The number of trauma events and SUDs per adolescent was averaged across the sample. Adolescents were interviewed by the principal researcher, an experienced trauma therapist and skilled in emotionally safe interviewing. A facility worker was present during interviews to ensure adolescent and researcher safety. Accuracy of trauma history recording was checked with the facility worker at the end of the session. Trauma history events reported in interview were compared with events reported in case files.

Standardized questionnaires.

To assess trauma-related symptoms in adolescents in secure in Scotland, a battery of self-report trauma-specific measures assessed posttraumatic stress (PTSD), depression, dissociation and wider mental health difficulties. The Children's Revised Impact of Events (CRIES-13: Smith, Perrin, Dyregrov, & Yule, 2002) measures the symptoms of intrusion, avoidance and arousal (13 items on a 4 point scale – not at all, rarely, sometimes, often). It has a Cronbach alpha coefficient of .80 showing good internal consistency (Smith et al., 2002). A cut-off of 17 or more (indicating the probability of PTSD) on the intrusion/avoidance sub-scales (8 items) was used for screening. The Moods and Feelings Questionnaire (MFQ: Angold, Costello, Messer, Pickles, Winder, & Silver, 1995) measures the extent of adolescent depressive symptoms (13 items on a 3 point scale – not true, sometimes, true). A cut-off of 12 or more indicating the probability of a depressive disorder was used. A range of moderate to high internal consistency (0.84) has been found (Sund, Larsson, & Wichstrom, 2001). The Adolescent Dissociative

Experiences Scale (ADES: Armstrong, Putnam, Carlson, Libero, & Smith, 1997) measures the symptoms of dissociation. A clinical cut off of 4.00 or more indicates the probability of a clinical diagnosis of dissociation. ADES has a high reliability score (Cronbach's alpha = 0.93). The Strengths and Difficulties Questionnaire (SDQ: Goodman, Meltzer, & Bailey, 1998) assesses wider mental health difficulties and was completed by adolescents and facility staff who were knowledgeable about the adolescent. SDQ has twenty five items over five scales and three levels of scoring, normal = 0; borderline = 1; and abnormal = 2. Total score is 0 - 40. A cut-off of 20 and above is abnormal. SDQ has an alpha score of .73 and a favorable correlation between staff and self-report. Analysis involved descriptive statistics, Chi-squared, and Kruskal Wallis were used to explore the moderating factors of age and gender. Results from standardized measures were compared with case files reports and trauma history interview SUDs.

Procedure

Ethics approval was received from a University Research Ethics Committee. Active informed consent was required for parents and staff and assent from adolescents. Case file analysis occurred over 3 months. Following completion of file analysis, standardized measures were administered to adolescents and staff over a two week period. Program workers administered measures to adolescents and the researcher administered questionnaires to staff. Measures were completed with each adolescent in the same session.

Results

Case file analysis

Professional involvement.

Cohen Kappa was $k = 0.94$, indicating a high level of reliability across the two researchers. Thirty four professions were recorded in files. This number increased to 55 when

professional types within profession were included. The average number of profession per adolescent was 16.12 ranging from 11 to 22. The list included: doctors (GP, residential, cardiologist); nurses; dentists; police; child protection officers; social workers (e.g. residential, specialist, out of hours); psychiatrists; psychologists (clinical, educational, forensic); mental health officer; teachers (e.g. unit, residential, home tuition); Children's Panel; Child Rights Officer; Youth Justice Team; probation officer; solicitor; safe guarder; criminal justice workers; reviewing officer; addiction workers; care workers (e.g. residential, secure, through-care); foster carers; dietician; care manager; family center staff; group workers; mental health link worker; physiotherapist; Sheriff; Children's First; Who Care's Scotland; Carers UK; self-help group; and secure program workers. In short, adolescents experience high numbers of diverse professionals. What this means and what impact this has on adolescent recovery needs further research.

Adolescents experienced changes in personnel because of changes in circumstances such as moving placements (mean changes $m = 6$); service to service referral ($m = 31$); and agency staff changes ($m = 9$). Adolescents therefore experience high numbers of professionals who frequently change. One file records "2004 adolescent and brother into residency; 2005 father drunk in charge of boys and stayed with mother overnight; 2006 foster care for 6 months, children's home for brief period, and residential school; 2008 foster care; 2009 back with mother; 2010 kinship care with aunt, foster care, parents of friend, and foster care; 2011 two children's homes; and 2012 secure placement."

Developmental trauma disorder.

A. Trauma exposure.

Extensive abuse histories were recorded in files, however, only four had coherent chronologies. Across adolescents, 10 types of harm were identified: sexual abuse ($n = 12$; 71%);

physical abuse ($n = 15$; 88%); physical assault ($n = 17$; 100%); experiencing domestic violence ($n = 12$; 71%); witnessing domestic violence ($n = 8$; 47%); neglect ($n = 10$; 59%); emotional abuse ($n = 7$; 41%); hospitalizations ($n = 9$; 53%); sudden traumatic losses ($n = 17$; 100%); and frequent placement change ($n = 17$; 100%). Quotes of each type of abuse include: *Sexual abuse*: “harbored by an older man, sexually abused, and concerns prostituting self to secure money.” *Physical abuse*: “hit by belt, punched by mother to body, and made to walk home with bare feet.” *Neglect*: “father’s misuse of alcohol, mother’s depression, inconsistent prison visits (to father), and house frequented by drinkers.” *Emotional abuse*: “blamed for mother’s cancer, family scapegoat, and made to feel worthless.” *Witness domestic violence*: “witnessed father hitting mother and kids.” *Hospitalization*: “attempted suicides, self-harm, and substance misuse.” *Sudden traumatic losses*: “father’s suicide; father’s imprisonment for murder, and sibling into care”. In short, adolescents experienced multiple types of harm, neglect and loss throughout their life course.

B. Triggered dysregulation to trauma cues.

Only 8 (47%) files connected daily events to triggered behavior. No connection was made between triggers and underlying trauma. Examples of a wide range of triggers included: “derogatory comments”; “the word No”; “receiving a three month order”; “upsetting parental phone calls”; “talking about past events”; “feeling unsafe”; “the perpetrator released from prison”; “worries about mother’s residence”; “threat to freedom”; and “news of parents splitting up.” Once triggered, a small number of adolescent responses were described: “gets angry when bulimia mentioned”; “child-like when peer triggers anxieties leading to violence”; history of absconding late afternoon, especially when feels unsafe”; “observable lowering of mood (hunched body)” and “bedtime is particularly difficult.” Only 2 files recorded intrusions:

“hallucinations making her do things” and “pseudo hallucinations about siblings.” Only 3 files noted psychological assessment for trauma symptoms. No diagnosis of PTSD was made, as adolescent responses were reported as “unpredictable” which “invalidated the results.”

In contrast, behavior difficulties were extensively reported. Examples were: “repeated absconding; self-harm; attempted suicide; refusal of eating, medication, schooling and going to bed; gang violence; violence towards staff, family and police ($n = 4$); sexually provocative; set house on fire ($n = 2$); risk-taking; vandalism; stealing; theft; substance misuse; and threatened to batter mother’s unborn baby.” In summary, staffs across agencies are recording adolescents’ aggressive, anxious and avoidant behaviors but not recording internal intrusive and sensory experiences. Little connection is being made between behavior and traumatic experiences.

Comments indicative of emotional dys-regulation were in all files. Examples include: “anxious about school, dentist, mother, stresses, and quick to get anger.” Dissociation was referred to in only 2 files. Descriptions that could be signs of dissociation were apparent in half the files, “confused thought processes; switching off; hallucinations; not feeling; lack of empathy; self-harm; unresponsive; and memory difficulties.” There was no evidence of professionals making connections between substance misuse, self-harm and dissociation. Depression was referred to in 3 files where the Moods and Feelings Questionnaire had been used. “Sadness, uncomfortable memories, nightmares, restlessness, low mood and negative self-beliefs” were identified symptoms. All files indicated adolescents showed symptoms of depression without depression being named, for example, “difficulties sleeping, not eating, refusal to get out of bed, little hope, lack of self-care, self-harm and attempted suicide.”

C. Persistently altered attributions and expectancies.

Adolescents’ disturbed cognitions were rarely reported. A few comments referred to

negative self-attributions, e.g. “blames self for what happened” ($n = 2$); “problems with self-identity” ($n = 1$); “low self-esteem” ($n = 2$); “not feeling loved” ($n = 2$) and having “problems thinking abstractly.” A high number of comments reported “distrust of carers and agencies” ($n = 15$). Most files reported re-victimization ($n = 15$) from peer, parental and community violence, risk-taking behaviors, substance misuse and sexual exploitation. For example, “the provocative way she dresses, associations she makes, and money from uncertain sources.” Only one adolescent experienced justice through the Scottish legal system for harms experienced where the perpetrator was incarcerated. In contrast, all adolescents experienced multiple legal consequences for behavior, e.g. child protection conferences; Hearings; supervision and care plan meetings; numerous charges, police station incarceration and over-night custody.

D. Functional disorders.

All adolescents had severely disruptive schooling characterized by underachievement, relationship difficulties and numerous educational placements. One case file records, “the father was imprisoned with problems starting in P1; attendance poor; behavior aggressive; on a part-time timetable; 2006 moved to a Special School; 2010 problems reappeared with attendance; excluded and ran away; 2011 transition to secondary school was marked by deterioration in behavior; excluded on several occasions; anxious; isolated; and refused to attend school.” Families ($n = 17$) were characterized by violent chaotic disorder involving poverty, dysfunctional parental relationships, domestic violence, emotional abuse, neglect, substance misuse, sudden and multiple losses and domestic violence. For example, “parents have an inability to instill boundaries for risk-taking; adolescent dominant in household; felt rejected at birth; and reconstituted family problems.” Peer relationships were described as involving: “bullying; gang violence, limited social skills, volatility under the influence of substance misuse; no attachments;

and coquettish around males.” Finally, adolescents were reported as lacking “goals and plans” ($n = 17$); with “limited leisure interests” ($n = 17$); and “assaults occurring on work placements” ($n = 7$). Files reported problems with “motivation and commitment” ($n = 17$), and hopeless about the future, e.g. “end in prison or a junkie” ($n = 8$).

Trauma history interviews

The number of traumatic events reported by adolescents was 144 ($m = 8.47$, $SD = 2.89$), ranging from 4 to 12 events, and a mode of 12 ($n = 4$). Sixteen types of event were identified: into foster and secure care ($n = 30$ events); parental/peer violence ($n = 25$); sudden traumatic loss of a relative or close friend ($n = 19$), e.g. parent into prison and a friend killed falling off a car park roof; children’s hearings ($n = 17$); witnessing domestic violence ($n = 11$); self-harm and attempted suicide ($n = 7$); school exclusion ($n = 7$); events not named ($n = 7$); child sexual abuse ($n = 5$); accidents including broken bones ($n = 5$); a bad ‘trip’ resulting in hospitalization ($n = 4$); parental substance misuse ($n = 3$); absconding ($n = 1$); being grounded ($n = 1$); restrained ($n = 1$); and laughed at by peers ($n = 1$). Events not only included violence and multiple cumulative losses but also trauma experienced through child care services. Table 1, provides an example of the frequency and type of traumatic events experienced by adolescents. No significant difference was found in the number of traumatic events experienced by participants across the sample $\chi^2 (6) = 2.353$, $p = .885$ and no significant difference was found for age $\chi^2 (N = 17) = 2.318$, $p = .509$ and gender $\chi^2 (N = 17) = 0.706$, $p = .401$. In summary, adolescents have the capacity to report experiencing multiple traumatic events over their life course.

Subjective units of disturbance

Table I, also shows an example of the high levels of emotional distress (SUDs) experienced by adolescents. The range of total SUDs across adolescents was 9 to 92 with an average score of

54.12 ($SD = 22.01$). No significant difference was found in the distribution of SUDS for adolescents $\chi^2 (16) = 0.000, p = 1.000$, indicating adolescents experienced similar levels of disturbance in the group. Although no significant difference was found for age $\chi^2 (N = 17) = 8.209, p = .042$, there was a trend towards 13 year olds reporting the highest SUDs ($m = 82$) compared to $m = 42, 51$ and 43 for 15, 16 and 17 year olds respectively). No difference was found for gender $\chi^2 (N = 17) = 0.238, p = .626$. Ten participants rated $n = 10$ SUDs for a trauma event. Four reported multiple 10 scores for 2 to 4 traumatic events. Twelve adolescents reported multiple scores of 7 and upwards. SUDs suggest adolescents continue to experience high levels of emotional disturbance from past traumatic events. Younger adolescents may be more vulnerable. It may be that the frequency and cumulative trauma experiences inhibit adolescent capacity to address traumatic experiences. Research is needed to test these hypotheses.

Table 1

Trauma history and SUDs. Sixteen year old female's traumatic events, and age of occurrence

Age	Trauma Experience/Event(s)	Current SUDS
4-6	Not say (CSA)	10
7	Young people (CSA)	9
4-5	Lost Gran	10
13-14	Punished by parents (not say)	10
7	Parents arguing	6
14	Police	9
15	Day came to Secure (got beaten up)	8
7-8	Mother took drugs	10
All	Panels/Hearings	7

Standardized measures

Eleven adolescents fulfilled the criteria for PTSD (65%) and depression (65%), however, only 3 (18%) reported dissociation at a clinical level (see Table 2). Scores ranged from 0 to 40 on the CRIES-13, $m = 18.18$ ($SD = 15.23$), however, no significant difference was found in the distribution of participant scores $\chi^2 (9) = 9.471, p = .395$ indicating levels of PTSD were similar for adolescents. No difference was found for gender $\chi^2 (N = 17) = 0.982, p = .322$ and age $\chi^2 (N = 17) = 1.946, p = .584$. A wide but non-significant range of depression symptoms (MFQ) was also reported $\chi^2 (12) = 2.118, p = .999$ with a mean of 21.65 ($SD = 16.74$). Again, no significant effect was found for gender $\chi^2 (N = 17) = 0.022, p = .883$ and age $\chi^2 (N = 17) = 0.477, p = .924$. On the ADES, no significant difference was found in the distribution of participant scores $\chi^2 (13) = 1.941, p = 1.000$ with a mean of 1.87 ($SD = 1.55$), indicating similar levels of dissociation for adolescents. No difference was found for gender $\chi^2 (N = 17) = 0.538, p = .463$ and age $\chi^2 (N = 17) = 0.699, p = .873$. In summary, there was a high level of PTSD, depression and to a lesser extent dissociation across the whole sample. Self-report scores affirmed SUDs. Perhaps not surprisingly, given the results of the previous standardized measures, no significant difference was found in the distribution of adolescent mental health scores on the SDQS, $\chi^2 (9) = 8.294, p = .505$ ($m = 21.47, SD = 5.17$). Adolescents therefore reported similar levels of mental health difficulties. Likewise no significant difference was found in the distribution of staff scores (SDQT) $\chi^2 (9) = 4.765, p = .854$ ($m = 22.43, SD = 4.40$), affirming the levels of mental health difficulties for adolescents in the sample. No gender $\chi^2 (N = 17) = 0.794, p = .373$ and $\chi^2 (N = 17) = 2.964, p = .085$ and age effects $\chi^2 (N = 17) = 1.306, p = .728$ and $\chi^2 (N = 17) = 3.415, p = .332$ were found for adolescent and staff reports respectively. A significant correlation ($0.94, p < .05$) was found between adolescent and staff reports indicating a high level of perceived

similarity in symptomology.

Analysis across measures

A range of abusive experiences were identified as general abuse categories ($n = 10$) in files. This averaged $m = 7.29$ per file. None of the files reported abuse categories from a trauma perspective. Only 4 files contained coherent chronologies of adolescents' lives. All 17 trauma history interviews, however, contained named trauma events ($m = 8.47$) at specific ages. This average was only slightly higher than the frequency of abuse categories, and may be a function of short trauma history interviews. Twelve types of traumatic event were identified in interview compared with 10 categories of abuse in files (see Table 3). Frequencies, across file abuse categories and trauma history events, were similar for CSA, physical abuse/assault, traumatic loss, hospitalizations and change of care placement. Only neglect and emotional abuse occurred more frequently in files than in trauma history interview events. Trauma histories, however, identified events of 'institutional harm' and 'self-harm/suicide attempts' that were absent from files. Further research is needed into the relationship between reported abuse categories and the identification of traumatic events. Indications are, both may be useful for clinical practice.

In files, a high level of mental health symptoms were reported for all adolescents. Only 3 files, however, made the connection with traumatization. Perhaps surprisingly, only a small number of files made the explicit connection between symptoms and past abuse ($n = 5$; 29%). In contrast, all adolescents were able to connect the degree of subjective disturbance to specific events in trauma history interviews. Standardized measures of mental health affirmed that adolescent SUDS in interview and symptoms in files were at clinically concerning levels.

Table 2

Standardized Measures, Means, SD and Significance

<i>Measures</i>	<i>Means</i>	<i>SD</i>	<i>Significance</i>	<i>%</i>
CRIES-13	18.18	15.32	$\chi^2 (9) = 9.471, p = .395$	65
MFQ	21.65	16.74	$\chi^2 (12) = 2.118, p = .999$	65
ADES	1.87	1.55	$\chi^2 (13) = 1.941, p = 1.000$	18
SDQS	21.47	5.15	$\chi^2 (9) = 8.294, p = .505$	-
SDQT	22.43	4.40	$\chi^2 (9) = 4.765, p = .854$	-

Table 3

Frequency of file abuse categories to trauma history interview events

<i>Case file categories</i>	<i>Trauma history events (examples)</i>
CSA ($n = 12$; 71%)	Penetrative sexual acts ($n = 12$; 71%)
Physical abuse ($n = 15$; 88%)	Punched/kicked/strangled by parents ($n = 17$; 100%)
Physical assault ($n = 17$; 100%)	Stabbed/hit/kicked by peers ($n = 15$; 88%)
Domestic violence ($n = 12$; 71%)	Parent repeatedly assault the other ($n = 17$; 100%)
Witness domestic violence ($n = 8$; 47%)	
Neglect ($n = 10$; 59%)	Parent(s) taking drugs ($n = 3$; 18%)
Emotional abuse ($n = 7$; 41%)	Laughed at by peers; ($n = 1$; 0.5%)
Hospitalizations ($n = 9$; 53%)	Accidents; broken bones; a bad 'trip' ($n = 9$; 53%)
Traumatic losses ($n = 17$; 100%)	Sudden traumatic loss relative/close friend ($n = 17$; 100%)
Placement change ($n = 17$; 100%)	Into foster/secure care ($n = 17$; 100%)
	Children's hearings/court/arrested ($n = 17$; 100%)
	School exclusion ($n = 7$; 41%); grounded ($n = 1$; 0.5%)
	Self-harm and suicide attempts ($n = 8$; 47%)

Discussion

This was the first study in Scotland to identify the extent of trauma exposure and resultant symptomology for adolescents in a secure facility. Trauma history interviews indicate adolescents experienced extensive trauma exposure. Indeed, the proportion of adolescents experiencing traumatic events across the life course (100%) goes well beyond previous estimates for children in care (Hussey et al., 2006). The discourse in files, however, was oriented towards child maltreatment categories and behavioral difficulties, a finding similar to the US (Havens et al., 2012). Files made no connection between embodied symptoms and past trauma exposure; reported behavioral triggers as a consequence of current stressors rather than past traumatic events; omitted diagnosis of PTSD and despite the current study's findings, failed to recognize and explain the extensive signs of developmental trauma in professional reports. In contrast to the US (Wasserman, et al., 2010), child care and secure facility professionals in Scotland showed few signs of taking a trauma-informed perspective.

Along with the omission of a trauma perspective, files reported a range of practice that potentially undermines trauma healing. Frequent service and staff changes for adolescents undermine relationships of trust (Connor, et al., 2003); legalistic and bureaucratic practice, in place of social justice, leaves adolescents feeling abandoned and worthless (Thorpe, 2007); and the failure to conduct coherent chronologies, can lead to an underestimation of harm, risks and support required (Reder & Duncan, 2013). Importantly, in the current study, trauma histories provided an opportunity for adolescents to tell a coherent narrative, a core aspect of trauma healing (Levine, 1997). When appropriately asked, adolescents identified a range of trauma exposure events within a short period of time. This appears to question the assumption that adolescents rarely disclose abuse (Barron & Topping 2010). Events disclosed included multiple

sudden traumatic losses, endemic familial and community violence, and institutional traumas. The latter included placement in foster care, residential, and secure and suggests the trauma of going into care is greater than previously thought (Wolfe, et al., 2001).

Multiple high SUDs suggest adolescents are struggling to heal from their trauma, perhaps because of the cumulative nature of familial violence (Briere, Kaltman, & Green, 2008). As a consequence adolescents, and especially younger adolescents, may also be more vulnerable to other traumas (Schwarz & Perry, 1994). Symptom wise, cumulative trauma in the current sample resulted in more than half having clinically concerning levels of PTSD, depression and to lesser extent dissociation. While this is not an untypical finding in the US (Briere, Kaltman, & Green, 2008), it affirms that adolescents in secure in Scotland experience multiple mental health concerns.

Limitations

As only one secure facility was involved, this raises questions about generalization of findings to the other four facilities in Scotland. The small sample size suggests conclusions are tentative. As there was only one standardized adult report measure, and staff had only known adolescents for a short time, the checking of reliability of adolescent reports by adults was limited. Given symptom measures were designed to assess the impact of a cluster of events rather than abuse over the life course, the current study may have underestimated the extent of trauma symptoms. It is important to recognize that the trauma history protocol was designed for clinical work not evaluation and as such, not all traumatic events may have been listed. The validity and reliability of this protocol needs to be assessed. Finally, the impact of the program worker being present during interviews on adolescent reporting is unknown.

Conclusions

This was the first study in Scotland to explore the nature and extent of traumatization within a secure facility. As with US studies, there is little evidence to suggest files include a trauma perspective to understand and respond to adolescent difficulties. Files can be characterized by a focus on categorizations of abuse and reports of behavioral difficulties. In contrast, analysis of files using an adapted developmental trauma framework identified a high level of domestic and institutional traumatic events. This finding was supported by trauma history interviews where adolescents reported lifetimes of cumulative trauma exposure. Further, adolescents reported high levels of trauma symptoms including post-traumatic stress (65%), depression (65%) and to a lesser extent dissociation (18%). Program staff affirmed adolescent reports. In short, adolescent traumatization and symptoms are pervasive within one secure accommodation facility in Scotland, yet rarely reported in case files. The authors suggest, therefore, there is a need for a change in the focus within this particular facility and potentially all secure facilities in Scotland, from adolescent behavioral difficulties to addressing underlying traumatization. In order to address the needs of traumatized adolescents, staffs in secure accommodation and child care agencies need to have an understanding of trauma exposure, resultant symptoms and how best to respond.

Recommendations for practitioners

In order to reframe professional perspectives to understand and explore the underlying trauma that drives troubling behavior, there is a need for training of professional agencies and secure staff. There is a need for practitioners to be aware of (i) what constitutes traumatic events, (ii) the resultant symptoms, (iii) how to assess traumatic events and symptoms and (iv) how best to intervene. Practitioners will need training in trauma-specific screening and assessment as well

as trauma-sensitive environments and trauma-specific interventions (Greenwald, Siradis & Schmitt, 2012). The developmental trauma framework provides a helpful tool for secure facilities and child protection services to analyze reports and files for traumatic events and symptoms, in order to make sense of the presenting problems resulting from cumulative trauma.

Recommendations for research

There is a need to replicate and expand the current study and assess trauma exposure and symptoms in secure facilities and child services across Scotland. The validity and reliability of the developmental trauma framework and trauma history interview need to be assessed within the secure context. Trauma-specific measures based on developmental trauma need to be identified and assessed for validity and reliability. The use of more adult-report measures as a comparison to adolescent self-report would aid reliability of findings. The co-morbid nature of adolescent mental health concerns in secure needs to be assessed and evaluation of developing trauma-sensitive milieu and trauma-specific interventions with adolescents needs to be conducted in Scotland. Age-related differences to trauma exposure needs continued research. Finally, adolescent experience of large numbers of diverse professionals and multiple legal proceedings needs further study.

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